

**BEFORE THE SOUTH CAROLINA PUBLIC SERVICE COMMISSION
DOCKET NO. 2020-229-E**

In the Matter of:)
Dominion Energy South Carolina,)
Incorporated's Establishment of a)
Solar Choice Metering Tariff Pursuant)
to S.C. Code Ann. Section 58-40-20)

**SURREBUTTAL TESTIMONY OF
JUSTIN R. BARNES
ON BEHALF OF
NORTH CAROLINA SUSTAINABLE ENERGY ASSOCIATION AND
SOLAR ENERGY INDUSTRIES ASSOCIATION**

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND CURRENT POSITION.

A. Justin R. Barnes, 1155 Kildaire Farm Rd., Suite 202, Cary, North Carolina, 27511. My current position is Director of Research with EQ Research LLC.

Q. DID YOU PREVIOUSLY SUBMIT DIRECT TESTIMONY TO THE PUBLIC SERVICE COMMISSION (“COMMISSION”) IN THIS PROCEEDING?

A. Yes. I submitted direct testimony on January 22, 2021 and revised direct testimony on February 8, 2021. The revisions filed on February 8th did not change the substance of my direct testimony, nor were they necessary to correct errors. Those revisions were associated solely with making public certain material that had been redacted in my January 22nd non-confidential testimony due to some uncertainty over what materials might be considered confidential.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my surrebuttal testimony is to respond to the direct testimony filed by Office of Regulatory Services (“ORS”) Witness Horii and the rebuttal testimonies filed by Dominion Energy South Carolina (“Dominion” or “the Company”) witnesses Everett, Robinson, and Kassis.

1 **Q. WHY ARE YOU RESPONDING TO THE DIRECT TESTIMONY OF ORS**
2 **WITNESS HORII IN SURREBUTTAL TESTIMONY RATHER THAN**
3 **REBUTTAL TESTIMONY?**

4 A. In order to fully understand Witness Horii’s analysis and recommendations, it was
5 necessary to review the workpapers associated with his evaluation of the
6 Company’s Solar Choice proposal. Those workpapers were not made available to
7 me until February 16th, which was after the deadline for rebuttal testimony. As it
8 is I only had roughly three days to evaluate Mr. Horii’s analysis and draft the
9 responses included in my surrebuttal testimony.

10 **Q. HOW IS YOUR SURREBUTTAL TESTIMONY ORGANIZED?**

11 A. My surrebuttal testimony is organized by topic area rather than by witness
12 because I believe it will present the Commission with a clearer picture of the
13 issues at play than if it were organized by witness. Those topic areas are as
14 follows:

- 15 • Solar customer cost of service and the proposed Solar Choice Subscription
- 16 Charge
- 17 • The proposed Solar Choice Basic Facilities Charge (“BFC”)
- 18 • NEM and NEM successor best practices
- 19 • Solar costs and Solar Choice impacts on customer uptake.

1 **Q. BEFORE YOU TURN TO YOUR SPECIFIC RESPONSES TO THE**
2 **DOMINION WITNESSES AND ORS WITNESS HORII, DO YOU HAVE**
3 **ANY OVERARCHING COMMENTS THAT YOU WOULD LIKE TO**
4 **CONVEY TO THE COMMISSION?**

5 A. Yes. My overarching comments are in reference to two topics under Commission
6 consideration: (1) the overall objectives of Act 62; and (2) the nature of cost of
7 service evaluations, solar customer cost of service, and cost shifts.

8 **Q. WHAT ARE YOUR OVERARCHING COMMENTS ON ACHIEVEMENT**
9 **OF ACT 62’S OVERALL OBJECTIVES WITH RESPECT TO THE**
10 **DESIGN OF SOLAR CHOICE TARIFFS?**

11 A. The Company’s rebuttal testimony is replete with accusations that the alternative
12 Solar Choice tariff proposal I specified in my direct testimony ignores or is
13 otherwise in conflict with Act 62’s directive that Solar Choice tariffs eliminate
14 any cost-shift to the greatest extent practicable, and that the Commission’s
15 evaluation of the costs and benefits of net metering consider the cost of service
16 implications of NEM. The implication is that my recommendations seek, in the
17 words of Company Witness Kassis, “a solar-developer gift package rather than a
18 tariff that ‘fairly allocates costs and benefits[.]’”¹ Nothing could be further from
19 the truth.

20 Contrary to Witness Kassis’ assertions, my recommended alternative
21 proposal is intended to give full meaning to the whole of Act 62, which includes

¹ Rebuttal Testimony of Daniel F. Kassis (“Kassis Rebuttal”) at 13:4-6.

1 provisions stating legislative objectives of avoiding disruption of the customer-
2 sited solar industry, building on the successes of 2014 Act 236, enumerating the
3 basic rights of electric customers, including an ability to exert control over their
4 energy bills, and allowing customer-generators to consume electricity behind the
5 meter without penalty, among others. My recommendations are based on both the
6 specific cost causation and local factors present in Dominion's service territory,
7 and the practices adopted in other jurisdictions when they were confronted with
8 similar issues. Rather than being "extreme", as Witness Kassis labels my
9 objection to the conceptual basis and design of the Company's proposed
10 subscription charge,² my positions are quite mainstream. On this specific issue,
11 the mainstream character of my position is evidenced by the fact that to my
12 knowledge only a single example of a subscription charge of similar intent or
13 magnitude exists anywhere in the spectrum of state-regulated distributed
14 generation ("DG") policies and rate designs that exist today.³ I would further note,
15 that one charge of a similar character previously adopted in Wisconsin for We
16 Energies' DG customers was later vacated upon judicial review for lack of
17 evidentiary support.⁴ Consequently, it is not reflected in the utility's rates. I note
18 here again that in this proceeding Dominion has likewise failed to produce a cost

² Kassis Rebuttal at 11:1.

³ Alabama Power charges a capacity based standby fee under Rate Rider RGB. This capacity reservation charge can be avoided with a customer election to take service under a modified version of Alabama Power's residential time-varying rate (Rate RTA) with a higher summer on-peak price. See Alabama Power Rate Rider RGB, available at: <https://www.alabamapower.com/content/dam/alabamapower/Rates/RGB.pdf>.

⁴ See, *All. for Solar Choice v. Pub. Serv. Comm'n of Wis.*, No. 15cv153 (Dane Cnty. Cir. Ct. Nov. 20, 2015).

1 of service evaluation of solar DG customers that is necessary to provide such
2 evidentiary support.

3 **Q. WHAT ARE YOUR COMMENTS REGARDING THE EVALUATION OF**
4 **THE COST TO SERVE SOLAR CUSTOMERS AND COST-SHIFTING?**

5 A. The thrust of both Dominion's Solar Choice tariff proposal as reflected in its
6 direct and rebuttal testimony, and to a lesser extent Witness Horii's alternative
7 proposal provided in direct testimony, is that a cost shift from solar customers to
8 non-solar customers is measured as the difference between what a solar customer
9 would pay to Dominion if they had not installed solar and a narrow assessment of
10 the *short-term* marginal value of customer-generated solar energy. No matter how
11 one interprets the numerous other objectives and directives contained in Act 62
12 beyond mitigating potential cost shifts, this position suffers from two serious
13 errors.

14 First, customer-sited solar facilities are long-lived assets whose value is
15 properly measured over a time horizon consistent with their useful lives. That
16 long-term value is not confined to the narrow energy, generation capacity, and
17 line loss values reflected in a traditional PURPA avoided cost framework which
18 focuses solely on "purchases" of energy and capacity from qualifying facilities
19 ("QFs"). Dominion simply ignores the long-term value associated with benefits
20 such as avoided transmission and distribution investments, and ORS Witness
21 Horii appears to simply accept that omission. Witness Beach's testimony on
22 behalf of South Carolina Coastal Conservation League, Southern Alliance for

1 Clean Energy, Upstate Forever, Vote Solar, Solar Energy Industries Association,
2 and North Carolina Sustainable Energy Association discusses this issue at length
3 and provides a much more complete picture of long-term avoided costs.

4 Second, as discussed by myself and Witness Beach in direct testimony, a
5 solar customer's approximate responsibility for *embedded costs* (*i.e.*, their cost of
6 service) is determined by their actual usage characteristics as modified by on-site
7 solar generation and assessed against cost causation factors (*e.g.*, contribution to
8 system peak loads). It is necessary to specifically study this cost of service in
9 order to reach conclusions about the existence and magnitude of any purported
10 cost shift.

11 Dominion simply ignored this critical piece of analysis by focusing solely
12 on a narrow set of marginal costs. This is a complete distortion of how marginal
13 costs are used in ratemaking. A marginal cost of service study will never produce
14 the same revenue requirement as an embedded cost of service study.
15 Consequently, when a marginal cost of service study is used to allocate costs
16 among customer classes, the resulting allocation amounts must be modified (*i.e.*,
17 grossed up) to produce the revenue requirement associated with embedded costs.
18 No utility would accept a cost of service framework that failed to allow it an
19 opportunity to recover its embedded costs by focusing solely on marginal costs.⁵

20 Yet Dominion seems to believe that such inequitable treatment is appropriate

⁵ For instance, an assessment of the costs of an existing generation unit might indicate that they are considerably above the short-term marginal value of that generation according to a more recent avoided cost assessment.

1 when it comes to ratemaking for solar customer generators. To his credit, ORS
2 Witness Horii provided some analysis of the actual costs to serve a solar customer
3 based on an embedded cost framework. However, as I discuss later in my
4 surrebuttal testimony, his analysis unreasonably modifies or incorrectly applies
5 the cost allocation methods that Dominion uses in its embedded cost of service
6 study.

7 The end result of both of these failures of conceptual and analytic rigor
8 from Dominion and ORS is an inaccurate assessment of the existence and
9 magnitude of a potential cost shift. This in turn translates to punitive Solar Choice
10 tariff proposals that not only fail to achieve the broader objectives of Act 62, but
11 also fail to adhere to cost causation and other fundamental principles of
12 ratemaking.

13 **II. SOLAR CUSTOMER COST OF SERVICE AND SUBSCRIPTION**

14 **CHARGE**

15 **Q. PLEASE EXPLAIN THE CONNECTION BETWEEN SOLAR**
16 **CUSTOMER COST OF SERVICE AND THE PROPOSED SOLAR**
17 **CHOICE SUBSCRIPTION CHARGE.**

18 **A.** Both the Company's proposed subscription charge and ORS Witness Horii's
19 proposed alternative subscription charge are based on a cost shift that arises from
20 a purported evaluation of solar customer cost of service (*i.e.*, as determined under
21 an embedded cost of service framework). For that reason, they cannot be
22 separated from one another and I address both in this section of my surrebuttal

1 testimony. To be clear, Dominion did not actually study how solar modifies a
2 customer's cost of service and the effects that this has on other customers within a
3 solar customer's broader class.

4 **Q. TO WHOM ARE YOU RESPONDING TO IN THIS SECTION OF YOUR**
5 **SURREBUTTAL TESTIMONY?**

6 A. My responses are focused on ORS Witness Horii's evaluation of solar customer
7 cost of service because the Company did not provide any substantive analysis on
8 this issue in its direct testimony or rebuttal testimony.

9 **Q. PLEASE BRIEFLY SUMMARIZE YOUR DIRECT TESTIMONY ON THE**
10 **ROLE OF COST OF SERVICE IN THE DESIGN OF SOLAR CHOICE**
11 **TARIFFS.**

12 A. At a high level my positions are as follows:

13 1. Evaluation of the costs to serve solar DG customers is a critical aspect of the
14 Commission's consideration of Solar Choice tariffs, but the Company has
15 failed to provide a cost of service study for the Commission to make such an
16 evaluation.

17 2. The design of Solar Choice tariffs, in particular the design of time-of-use
18 ("TOU") rates employed as a mandatory condition of Solar Choice service,
19 should be aligned with the cost allocation regime used in a cost of service
20 study to ensure that Solar Choice customers receive price signals that
21 incentivizes changes in their electricity consumption behaviors that reduce the
22 allocation of embedded costs to their respective rate class.

1 3. The results of an evaluation of solar DG customer cost of service should not
2 be considered fully “determinative” of Solar Choice tariff design because: (a)
3 Act 62 requires the Commission to balance cost of service considerations with
4 other public policy objectives; and (b) cost of service results are backwards-
5 looking and Solar Choice applies in a forward-looking manner.

6 **Q. PLEASE BRIEFLY DESCRIBE ORS WITNESS HORII’S EVALUATION**
7 **OF SOLAR CUSTOMER COST OF SERVICE.**

8 A. Witness Horii conducted an embedded cost of service evaluation based on a
9 scenario where residential and small general service (“SGS”) solar customers
10 each make up 10% of their respective classes using system sizes of 3 kW for
11 residential customers and 7.5 kW for SGS customers. The results are presented in
12 Table 5 of his direct testimony, which based on his evaluation, shows an annual
13 cost of service reduction of \$147/customer for residential solar customers and
14 \$556/customer for SGS customers.⁶ These amounts are presented alongside cost
15 of service estimates for non-solar customers in Table 5, which I have pasted
16 below.

⁶ Direct Testimony of Brian Horii (“Horii Direct”) at pp. 27 – 28.

Figure 1: ORS Witness Horii Table 5

	Res Non Solar	Res Solar	Small GS Non-Solar	Small GS Solar	Medium	Large	StLtg	Wholesale	Total
Allocated Costs (\$k)									
Production Capacity Costs	337,587	36,071	150,489	16,151	74,451	162,744	-	22,858	800,352
Transmission Capacity Costs	77,513	8,156	37,365	3,971	16,923	34,661	-	2,536	181,126
Disribution Capacity Costs	93,730	10,179	46,746	3,301	19,234	22,961	4,835	-	200,985
Energy Costs	207,860	15,929	93,790	7,504	60,515	183,591	8,303	22,666	600,158
Customer Costs	132,706	14,745	35,252	3,917	9,736	5,367	46,377	988	249,088
Total	849,396	85,081	363,642	34,843	180,859	409,325	59,515	49,048	2,031,709
Energy (GWh)	7,369	565	3,293	263	2,149	6,773	290	882	21,585
Monthly Demands (MW-mo)	59,236	6,582	14,577	1,620	5,102	10,558	839	1,682	100,196
Customers	567,402	63,045	90,005	10,001	2,651	377	88,342	2	821,825
Total Cost per Customer (\$/Cust)	1,497	1,350	4,040	3,484					
Reduction for solar customers (\$/cust)		147		556					

Q. DO YOU HAVE ANY OBSERVATIONS ON THE INFORMATION PRESENTED IN HORII TABLE 5?

A. I will discuss my objections to how Witness Horii arrives at these numbers later in my surrebuttal testimony. However, at the outset, the Commission should appreciate that the figures detailing the “Total Cost per Customer (\$/Cust)”, such as \$1,350 for residential customers, do not themselves represent a quantification of a supposed cost shift. Under the current NEM regime, a residential solar customer in Witness Horii’s analysis would still pay the generally applicable BFC towards the quoted cost of service, as well as charges for the remaining amount of energy not supplied by a 3 kW system relative to an average residential load. Using Witness Horii’s assumptions, the remaining residential NEM customer bill would total roughly \$841/year, and payment of the residential BFC in the amount proposed in the Company’s pending rate case (\$11.50/month) would total \$138/year. Thus, the solar customer represented in Table 5 would pay approximately \$979 towards that remaining cost of service on an annual basis.

1 **Q. DOES WITNESS HORII’S EMBEDDED COST OF SERVICE ANALYSIS**
2 **ACCURATELY REFLECT THE ACTUAL COSTS TO SERVE SOLAR**
3 **CUSTOMERS?**

4 A. No. I have identified several problems with his evaluation that are highly
5 consequential to Witness Horii’s results and cause those results to significantly
6 overstate the costs to serve solar customers based on the allocation methods used
7 in Dominion’s embedded cost of service study. In effect, Witness Horii did not
8 perform a study of how solar influences class allocations of embedded costs
9 because he did not actually use the Company’s methodology for performing these
10 allocations. The specific problems are as follows:

- 11 1. Witness Horii calculates solar production capacity savings based on a
12 different methodology than Dominion actually uses for its embedded cost of
13 service study, resulting in a dramatically lower solar capacity contribution.
- 14 2. Witness Horii incorrectly applies the coincident peak allocator that Dominion
15 uses for transmission costs, which dramatically understates the solar capacity
16 contribution during coincident peak hours.
- 17 3. Witness Horii bases his assessment of coincident peak hours on “net load”
18 whereas Dominion’s cost of service methodology uses total system load to
19 designate the system peak day, and ultimately construct the coincident peak
20 allocator.

21 In addition, as I discuss in Section III of my surrebuttal testimony, Witness
22 Horii did not address the proper classification of customer-related costs, resulting

1 in a portion of costs that are actually demand-related being included as customer-
2 related. Classifying these costs as customer-related renders them fixed, and
3 therefore not subject to a potential reduction due to the contribution of solar to
4 reducing the maximum class peak loads which are used to allocate distribution
5 costs.

6 **Q. PLEASE EXPLAIN IN MORE DETAIL THE ISSUES YOU HAVE**
7 **IDENTIFIED WITH ORS WITNESS HORII'S EVALUATION OF SOLAR**
8 **CONTRIBUTION TO COSTS ALLOCATED BASED ON THE**
9 **COINCIDENT PEAK ALLOCATOR.**

10 A. As I discussed in my direct testimony, Dominion allocates production and
11 transmission capacity costs based on class loads during a window from 2 – 6 PM
12 on the day of the system peak. That peak day was July 18, 2019 for the purposes
13 of the embedded cost of service study the Company presented in its pending rate
14 case. Accordingly, a given class's allocation of those costs is based on their
15 average load from 2 – 6 PM on July 18, 2019, and customer-sited solar reduces
16 the allocation of costs based on its performance during that set of hours.
17 Dominion actually applied a subtraction of 35 MW to the residential class load
18 based on an estimate of customer-sited solar production in its embedded cost of
19 service study. My own calculation presented in my direct testimony showed a

1 solar capacity factor of 46.75% for residential solar generation based on actual
2 metered production data from that generation supplied by Dominion.⁷

3 ORS Witness Horii uses a completely different methodology for both
4 production capacity and transmission costs. First, he uses a solar capacity factor
5 of 4% for the purposes of production capacity allocation, which is based on a
6 figure derived from Dominion's most recent avoided cost proceeding. Again, this
7 is not how Dominion actually allocates production capacity costs in its embedded
8 cost of service study.⁸

9 Second, for transmission capacity, Witness Horii uses a 5.6% solar
10 capacity factor based on the timing of the top four hourly net load peaks. There
11 are two interrelated departures from Dominion's cost of service methodology
12 under this approach.⁹ First, Dominion does not use the top four hourly peaks in its
13 coincident peak allocator. It uses the four hours from 2 – 6 PM on the peak day
14 (July 18, 2019). Second, the system peak day is defined on the basis of total
15 hourly loads, not net loads. Using net loads, even if one uses the proper single day
16 methodology, distorts the results because net loads already reflect a contribution
17 from solar to reducing total peak load. Consequently, it fails to represent a
18 counterfactual "no solar" scenario that is necessary to define how the addition of
19 solar affects cost allocation.

⁷ After applying a demand loss factor, the equivalent capacity factor is 51.35%.

⁸ ORS Response to NCSEA-SEIA DR1-5, Attachment entitled "Embedded Cost of service analysis Notes", pp. 3-4.

⁹ *Id.*

1 **Q. DOES WITNESS HORII PROVIDE ANY JUSTIFICATION FOR THE**
2 **DEPARTURES HE MADE FROM DOMINION’S EMBEDDED COST OF**
3 **SERVICE METHODOLOGY IN HIS ANALYSIS?**

4 A. In response to an information request, Witness Horii stated that he used the
5 alternative avoided cost production capacity amount (4% solar capacity factor)
6 because he believed it to be more reasonable generally, and based on a more
7 “sophisticated and complete view of the need for generation capacity.”¹⁰ Witness
8 Horii does not explain the remaining differences I have identified. In my review,
9 those differences appear to stem from a misunderstanding of how Dominion
10 actually constructs the coincident peak allocator used for production and
11 transmission capacity costs.

12 **Q. ARE THE METHODOLOGICAL DIFFERENCES EMPLOYED BY**
13 **WITNESS HORII IN HIS EMBEDDED COST OF SERVICE ANALYSIS**
14 **REASONABLE?**

15 A. No. Regardless of any purported rationale, modifying the methodology is
16 unacceptable because doing so creates differences between how cost of service is
17 assessed for solar customers and non-solar customers. The specific intentional
18 change Witness Horii made in evaluating production capacity cost responsibility
19 relates to his view of marginal capacity value, not the cost of service value of
20 solar under the Company’s embedded cost framework.

¹⁰ *Id.* at 4.

1 **Q. HAVE YOU DEVELOPED AN ALTERNATIVE ESTIMATE OF SOLAR**
2 **CUSTOMER COST OF SERVICE BASED ON MORE REASONABLE**
3 **ASSUMPTIONS THAN THOSE USED BY WITNESS HORII?**

4 A. Yes. To make this calculation I substituted the solar capacity factor that I
5 presented in my direct testimony based on actual metered residential solar data for
6 the solar capacity contribution Witness Horii used for the coincident peak
7 allocator. I also grossed up this amount for demand losses. Changing nothing
8 other than this aspect and the accompanying changes need to recalculate unit
9 costs, the residential solar customer cost of service decreases from \$1,350
10 annually to \$1,036 annually.¹¹ Thus, the cost of service reduction caused by solar
11 increases from \$147 to \$476 annually. As I previously noted, this hypothetical
12 solar customer would still pay significant remaining charges in the form of the
13 standard BFC and charges for load that is not offset by solar, totaling roughly
14 \$979/year. Accordingly, the remaining “cost shift” to non-solar residential
15 customers would be roughly \$57/year (*i.e.*, \$1,036 minus \$979).

16 It is important to note that this amount of implied cost shift does not
17 address potential distribution demand-related savings beyond those estimated by
18 Witness Horii. Witness Horii applied a 1.8% solar capacity contribution to the
19 distribution demand allocator, which is based on maximum non-coincident class

¹¹ Correcting Witness Horii’s application of the coincident peak allocator results in a different amount of total coincident peak MW. Accordingly, the unit costs derived from dividing the functionalized revenue requirement by peak MW change by a small amount, producing slightly lower unit costs.

1 demand.¹² However, as I observed in my direct testimony, while the timing of the
2 coincident peak is relatively predictable, the timing of maximum class demand is
3 likely to be more variable. Consequently, using a single hour from the Company's
4 residential load profile as Witness Horii does may not reflect a more typical solar
5 contribution to reducing maximum class demand.

6 For this purpose, Witness Beach estimated an average solar capacity
7 contribution of 29% based on the top 10% of residential peak demand hours.¹³
8 Utilizing that amount, residential solar customer cost of service is reduced to
9 \$982/year, resulting in an implied cost shift from residential solar customers to
10 residential non-solar customers of roughly \$3/year. Alternatively, if one uses the
11 average of just the top 2 residential class peak load hours, the solar contribution is
12 19%. Again, using the structure of Witness Horii's evaluation, residential solar
13 customer cost of service is \$1,002/year and the implied cost shift benefiting
14 residential solar customers is roughly \$22/year.

15 The point here is that the supposed embedded cost of service cost shift is
16 effectively zero if one uses Witness Horii's method with corrected coincident
17 peak allocator inputs and makes only a small and reasonable modification to the
18 calculation of the solar contribution to reducing maximum class demand. Table 1
19 below shows the top 20 residential demand hours based on Dominion's residential
20 load profile and solar contribution's during those hours. The column at the far

¹² ORS Response to NCSEA-SEIA DR1-5, Attachment entitled "Embedded Cost of service analysis Notes", p. 4.

¹³ Direct Testimony of R. Thomas Beach ("Beach Direct") at 31:2-3.

right presents the average solar capacity factor depending on the number of the top load hours included in the average. For instance, the first row is the single hour of maximum class demand, while the second row shows the average of the top two hours and so forth through the top 20 hours. The prevalence of solar capacity factors at or higher than 20% suggests that this is a more reasonable range than what Witness Horii uses for defining a typical solar contribution to maximum residential class demand.

Table 1: Solar Contribution - Residential Class Maximum Demand Hours

Month	Day	Hour Ending	Residential Demand (kW)	Solar Generation (per kW)	Cumulative Avg. Solar Capacity Factor
2	1	8	3.87	0.02	1.75%
10	4	17	3.79	0.44	19.10%
10	3	18	3.73	0.21	18.55%
2	1	7	3.70	0.00	13.91%
10	3	17	3.66	0.44	18.42%
10	4	16	3.66	0.65	24.33%
10	4	18	3.65	0.21	23.35%
7	3	18	3.60	0.33	23.86%
8	13	18	3.60	0.28	23.83%
8	9	19	3.60	0.17	22.89%
10	3	16	3.60	0.63	25.57%
10	2	18	3.57	0.21	24.89%
8	9	18	3.55	0.36	25.30%
7	3	17	3.54	0.50	26.47%
8	13	19	3.53	0.13	25.41%
8	13	17	3.52	0.47	26.28%
8	9	17	3.52	0.54	27.36%
10	2	17	3.51	0.42	27.78%
10	4	19	3.50	0.04	26.49%
10	4	15	3.50	0.82	28.57%

1 **Q. HOW SHOULD THE COMMISSION VIEW YOUR ANALYSIS AS IT**
2 **RELATES TO THE COMPANY'S PROPOSED SUBSCRIPTION**
3 **CHARGE?**

4 A. The Commission should find that the embedded cost shift, even under current
5 rates, is minimal to non-existent. As such, since the purpose of the proposed
6 Subscription Charge is to remedy a purported cost shift, the charge is unnecessary
7 and unwarranted. The modest character of any embedded cost shift dictates a
8 modest response. My recommendation that Solar Choice tariff customers
9 eventually be required to take service under an otherwise available TOU rate is
10 sufficient for this purpose as it would incentivize Solar Choice customers to
11 reduce their electricity demand during peak periods and in doing lower their cost
12 of service further.

13 **III. SOLAR CHOICE BASIC FACILITIES CHARGE**

14 **Q. WHOSE TESTIMONY DOES YOUR SURREBUTTAL TESTIMONY**
15 **RESPOND TO ON THE ISSUE OF SOLAR CHOICE BFCS?**

16 A. I offer responses to ORS Witness Horii and Company Witness Everett on this
17 issue.

1 **Q. ORS WITNESS HORII'S DIRECT TESTIMONY PROPOSES A**
2 **MODIFIED SOLAR CHOICE TARIFF DESIGN, BUT DOES NOT**
3 **PROPOSE ANY CHANGES TO DESC'S PROPOSED SOLAR CHOICE**
4 **BFCs. HOW DO YOU RESPOND TO THIS ASPECT OF WITNESS**
5 **HORII'S PROPOSAL?**

6 A. Witness Horii appears to simply accept the Company's representation of its
7 "customer-related" costs without evaluation of whether those amounts are
8 accurate or are otherwise reasonable. As I demonstrated in my direct testimony,
9 the Company's method of classifying certain costs associated with the shared
10 distribution system as customer-related when they should be classified as
11 demand-related is inconsistent with the prevailing regulatory view on the nature
12 of "customer-related" costs and the proper establishment of BFCs. This very issue
13 of cost classification is disputed in the Company's pending rate case.

14 Furthermore, Witness Horii failed to evaluate the Company's proposed
15 BFCs relative to numerous provisions of Act 62. For instance, in establishing an
16 "enumeration of electric utility customer rights", Act 62 states:

17 (A) The General Assembly finds that there is a critical need to:

18 (1) protect customers from rising utility costs;

19 (2) *provide opportunities for customer measures to*
20 *reduce or manage electrical consumption from electrical*
21 *utilities in a manner that contributes to reductions in utility*
22 *peak electrical demand and other drivers of electrical*
23 *utility costs; and*

1 (3) *equip customers with the information and ability to*
2 *manage their electric bills.*

3 (B) *Every customer of an electrical utility has the right to a*
4 *rate schedule that offers the customer a reasonable opportunity to*
5 *employ such energy and cost-saving measures as energy efficiency,*
6 *demand response, or onsite distributed energy resources in order*
7 *to reduce consumption of electricity from the electrical utility's*
8 *grid and to reduce electrical utility costs.*

9 (C) In fixing just and reasonable utility rates pursuant to
10 Section 58-3-140 and Section 58-27-810, the commission shall
11 consider whether rates are designed to *discourage the wasteful use*
12 *of public utility services* while promoting all use that is
13 economically justified in view of the relationships between costs
14 incurred and benefits received, and that no one class of customers
15 are unduly burdening another, and that each customer class pays,
16 as close as practicable, the cost of providing service to them.

17 (D) For each class of service, the commission must ensure that
18 each electrical utility offers to each class of service a minimum of
19 *one reasonable rate option that aligns the customer's ability to*
20 *achieve bill savings with long-term reductions in the overall cost*
21 *the electrical utility will incur in providing electric service,*
22 including, but not limited to, time-variant pricing structures.

23 (emphasis added)

24 This statement of electric utility customer rights is not confined to non-
25 Solar Choice tariff customers; it applies equally to all customers. Recovering
26 demand-related costs through a fixed charge conflicts with the objectives of Act
27 62 because a fixed charge makes those demand-related costs unavoidable by Solar
28 Choice customers.

29 In addition, cost recovery of these costs through fixed charges fails to treat
30 Solar Choice customers equally to non-Solar Choice customers in the same rate
31 class (*e.g.*, residential). Even if one accepts the Company's definition of fixed
32 customer-related costs, there is a clear disparity between the bill impact on Solar

1 Choice and non-Solar Choice customers. Under the Company's proposal, non-
2 Solar Choice customers could, for instance, reduce their energy consumption via
3 energy efficiency or behavioral changes and thereby reduce their utility bills, but
4 Solar Choice customers who reduce their energy consumption via self-generation
5 would be prevented from similarly reducing their energy bill due to the fixed
6 charges applicable only to Solar Choice customers. The Company's design is
7 essentially a penalty against Solar Choice customer's self-generation.

8 Such a result conflicts with both the basic rights the Legislature sought to
9 create for all customers, as well as the specific directive that Solar Choice tariffs
10 "permit solar choice customer-generators to use customer-generated energy
11 behind the meter without penalty."¹⁴ Such customer-generated energy used behind
12 the meter is the functional equivalent of forgone consumption by a non-solar
13 customer. However, under the Company's proposal a non-solar customer is
14 afforded an opportunity to receive bill savings from such a reduction, whereas a
15 Solar Choice customer is not. The sole basis for this difference is the presence of
16 on-site generation. It defies all logic to not view this as a "penalty".

¹⁴ Section 58-40-20(G)(2).

1 **Q. TURNING TO COMPANY WITNESS EVERETT, PLEASE FIRST**
2 **RESPOND TO HER STATEMENT AT P. 19 LINES 5-6 CONTENDING**
3 **THAT YOU PROPOSED TO “ELIMINATE THE BFC” AND UTILIZE**
4 **ONLY A MINIMUM BILL IN PLACE OF THE BFC.**

5 A. This statement is simply incorrect. I very clearly recommended that Solar Choice
6 customers be obligated to pay the applicable BFC for the standard rate for their
7 customer class. A small additional minimum bill would be layered on top of that
8 BFC which I specified as being based on a TOU rate BFC. I specifically
9 recommended “Thus, under the rate case proposed rates, a residential Solar
10 Choice customer would pay a BFC of \$11.50/month and a \$15.50/month
11 minimum bill while an SGS Solar Choice customer would pay a BFC of
12 \$22.00/month and \$25.65/month minimum bill. The BFC would count towards
13 the payment of this minimum bill.”¹⁵

14 Accordingly, the incremental addition to the BFC would be \$4.00/month
15 in the residential minimum bill and \$3.65/month in the SGS minimum bill. My
16 recommendation is based on the dual objectives of: (a) ensuring that customer-
17 related costs are recovered from Solar Choice customers, and (b) providing equal
18 and fair treatment to Solar Choice customers with respect to the application of
19 fixed charges like the BFC.

¹⁵ Direct Testimony of Justin R. Barnes at 50:20 to 51:2.

1 **Q. DID WITNESS EVERETT PROVIDE ANY EVIDENCE REBUTTING**
2 **THE EVIDENCE YOU PRESENTED ON THE PROPER**
3 **DETERMINATION OF CUSTOMER-RELATED COSTS AND DESIGN**
4 **OF BFCS?**

5 A. No. Witness Everett’s position is basically that “I am right and Mr. Barnes is
6 wrong,” but nowhere in her rebuttal does she offer any substantive justification
7 for her position.

8 **Q. HOW DO YOU RESPOND TO WITNESS EVERETT’S CONTENTION AT**
9 **P. 15 LINES 11-12 THAT ADOPTING YOUR RECOMMENDED BFC**
10 **AND MINIMUM BILL DESIGN WOULD PRODUCE A RESULT WHERE**
11 **“THESE COSTS WOULD [SIC] ALLOCATED INSTEAD TO THE**
12 **SUBSCRIPTION RATE[?]”**

13 A. The existing TOU rate designs available to residential and small commercial
14 customers already properly reflect demand-related costs as components of the
15 time-varying volumetric rate structure. As I have already shown, the subscription
16 rate is unnecessary and unwarranted based on my evaluation of the costs to serve
17 residential solar customers.

IV. NEM AND NEM SUCCESSOR BEST PRACTICES

Q. PLEASE SUMMARIZE THE COMPANY’S RESPONSE TO HOW YOU RELATED NEM AND NEM “BEST PRACTICES” IN YOUR DIRECT TESTIMONY.

A. Company Witness Kassis claims that the information I provided amounts to a “mischaracterization of NEM best practices.”¹⁶ Company Witness Everett objects to my statements contesting the accuracy of her own description of NEM best practices, though she also argues that NEM best practices are “immaterial” to the development of a Solar Choice tariff given the specific requirements of Act 62.¹⁷ She also purports to present an alternative view of NEM best practices based on a premise that many jurisdictions have recently considered some form of change to NEM or DG compensation policies, and those so-called “actions” have involved consideration of many potential designs, such as TOU rates, minimum bills, grid access charges, or demand charges.

Q. HOW DO YOU RESPOND TO COMPANY WITNESS KASSIS?

A. Mr. Kassis does not provide any further description of how, even at the most general level, my direct testimony is a mischaracterization of NEM best practices. His statement is pure rhetoric without any factual or evidentiary basis.

¹⁶ Kassis Rebuttal at 8:17.

¹⁷ Everett Rebuttal at pp. 11-14, specific quote at 14:22.

1 **Q. HOW DO YOU RESPOND TO COMPANY WITNESS EVERETT’S**
2 **RELATION OF NEM BEST PRACTICES AND THE ACCURACY OF**
3 **THOSE STATEMENTS?**

4 A. I respond in the same way that I responded to her similarly misleading testimony
5 in the Generic Docket.¹⁸ I do not disagree that DG policy and rates for DG
6 customers is a prominent and dynamic issue, or that discussions have included
7 many potential refinements and evaluations of DG costs and benefits. However,
8 in most cases these evaluations and discussions are ongoing, and by and large
9 actually adopted changes remain modest and net metering remains the most
10 common prevailing policy.

11 As I demonstrated in the Generic Docket, Witness Everett makes serious
12 errors in her discussion of policy evolution and “best practices” by: (a) conflating
13 all supposed “actions” on DG policy, including those that have *expanded* the
14 availability of net metering, with the Company’s proposals, and (b) conflating
15 proposed changes with changes that were actually adopted as policy. In other
16 words, many of the “actions” Witness Everett cites to support her suggestion that
17 highly punitive proposals like the Company’s are common NEM policy
18 evolutions were in fact *rejected* by regulators.

19 A “best practice” is defined by measures that have been *adopted as*
20 *reasonable*. My direct testimony profiled those refinements adopted in NEM
21 successor regimes in relatively higher penetration states, including how those

¹⁸ Docket No. 2019-182-E.

1 states selected individual elements from the spectrum of possible changes. None
2 of those NEM successor regimes impose anything close to the punitive solar
3 policy design proposed by the Company for the Solar Choice tariffs.

4 **Q. HOW DO YOU RESPOND TO COMPANY WITNESS EVERETT’S**
5 **CONTENTION THAT BEST PRACTICES ARE “IMMATERIAL” TO**
6 **THE DEVELOPMENT OF SOLAR CHOICE TARIFFS PURSUANT TO**
7 **ACT 62?**

8 A. Witness Everett’s contention is based on a selective reading of Act 62 that fails to
9 account for the whole of the statute’s intent. She specifically focuses on the Act
10 62 directive that Solar Choice tariffs eliminate potential cost-shifting between
11 customer generators and non-customer generators “to the greatest extent
12 practical.”¹⁹ I am not an attorney, but I believe a plain reading of this language
13 indicates that the legislature specifically intended for the Commission to engage
14 in a balancing of interests by inserting the “practical” into this clause. In my view,
15 the only reasonable interpretation of what is “practical” in this context is defined
16 by a balancing of interests between eliminating any potential cost-shift “to the
17 greatest extent practical” with other overarching objectives of Act 62, which
18 include:

- 19 • [B]uild upon the successful deployment of solar generating capacity through
20 Act 236 of 2014 to continue enabling market-driven, private investment in
21 distributed energy resources across the State reducing regulatory and

¹⁹ Everett Rebuttal at 14:8-24, referring to S.C. Code Ann. § 58-40-20(G)(1).

1 administrative burdens to customer installation and utilization of onsite
2 distributed energy resources.²⁰

- 3 • [A]void disruption to the growing market for customer-scale distributed
4 energy resources;²¹

5 Witness Everett notably omits mention of these broad objectives,
6 rendering them apparently meaningless despite the Legislature’s unambiguous
7 statement of its goals. As such, Witness Everett’s statement that best practices are
8 “immaterial” to the development of Solar Choice tariffs underscores the
9 inadequacy of the Company’s proposed Solar Choice tariffs as it relates to the
10 directives of Act 62.

11 **Q. AT P. 18 LINES 1-3, WHEN DISCUSSING YOUR BFC AND MINIMUM**
12 **BILL PROPOSAL, WITNESS EVERETT STATES THAT SOLAR**
13 **CHOICE TARIFFS CANNOT BE TREATED “LIKE A BUFFET BY**
14 **ONLY PICKING AND CHOOSING CERTAIN ASPECTS[.]” HOW DO**
15 **YOU RESPOND TO THIS ASSERTION?**

16 A. First, as I previously described, Witness Everett’s discussion of this aspect of my
17 testimony misstates my recommendation for a Solar Choice minimum bill and
18 how it relates to the BFC. That necessary observation aside, this statement is
19 ridiculous. There are an infinite number of rate designs capable of producing a
20 given revenue requirement. Ratemaking has always picked and chosen from

²⁰ Section 58-40-20(A)(1).

²¹ Section 58-40-20(A)(2).

1 different rate design elements in search of the right balance of price signals, and
2 with a recognition that: (a) cost of service is always an approximation, (b)
3 different rate designs will always produce different winners and losers for reasons
4 that bear no relationship to cost of service, and (c) overarching policy goals must
5 be considered when designing rates.

6 This exercise produces the numerous variations in prevailing rate
7 structures among different utilities and customer groups today, as well as the
8 elements that have been adopted in NEM successor regimes. The “best practice”
9 is in fact the careful picking and choosing from among available options in order
10 to find solutions that achieve a balance between sometimes competing objectives.
11 Act 62 directs the Commission to adopt Solar Choice tariffs. Witness Everett’s
12 assertion incorrectly implies that the stated objectives of Act 62 can be ignored
13 and again underscores the insufficiency of the Company’s proposed Solar Choice
14 tariff as it relates to the directives of Act 62.

V. SOLAR COSTS AND SOLAR CHOICE IMPACTS ON CUSTOMER

SOLAR ADOPTION

Q. AT P. 5 LINES 4-7 WITNESS ROBINSON ARGUES THAT YOUR DISCUSSION OF TRENDS IN RESIDENTIAL NEM INSTALLATION RATES MISTAKENLY ATTRIBUTES A SLOWDOWN IN DOMINION TERRITORY “EXCLUSIVELY” TO CHANGES IN RETAIL RATES. IS HIS STATEMENT CORRECT?

A. No. I made no such statement or inference anywhere in my direct testimony. Mr. Robinson grossly mischaracterizes my testimony on the topic by selecting one paragraph to the exclusion of all of the surrounding discussion I offer on the topic. While I did make the observation that customer perceptions of the potential future rate increases is likely to be one factor influencing the demonstrated declining installation rates, I also observed that the decline in the ITC and the COVID-19 pandemic likely also play a role, and that economics overall is a significant but not exclusive factor.

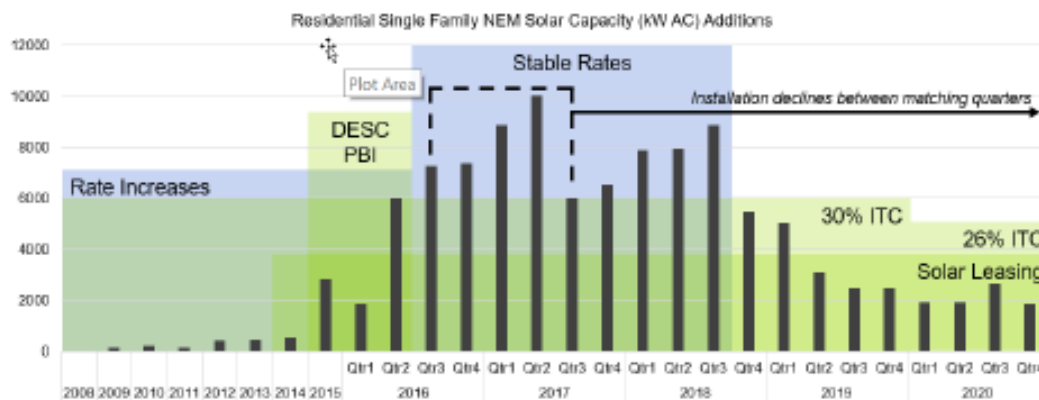
Q. DOES WITNESS ROBINSON’S REBUTTAL TESTIMONY PRESENT EVIDENCE THAT WHAT HE REFERS TO AT P. 5 LINE 4 AS YOUR “SPECULATION” ON THE ROLE OF RETAIL RATES IN INFLUENCING CUSTOMER SOLAR ADOPTION IS IN ERROR?

A. No. In fact, it lends further evidence *in support* of my evaluation. Figure 1 from Witness Robinson’s rebuttal testimony pasted below shows the highest installation rates immediately following the period of rate increases, then declines

as customers became accustomed to stabilized rates and then declining rates. A lag between changes in rate trends and customer perceptions of rate trends would be entirely expected, which is exactly what Figure 1 shows. The pool of potential adopters becomes smaller as perceived economic attractiveness declines, resulting in fewer installations. A reverse in those consumer perceptions will also take time to make itself known, hence my assertion that even under the prevailing NEM model, the solar installation market is already under considerable stress.

Figure 2: DESC Witness Robinson Figure 1

Figure 1. DESC Residential Solar PV NEM Adoption Dynamics



Q. AT P. 8 LINE 22 COMPANY WITNESS ROBINSON ARGUES THAT THE SOLAR COST DATA YOU PRESENTED IS BASED ON A DATASET THAT IS “NOTORIOUSLY LOW QUALITY” AND AT P. 9 LINE 16 THAT IT IS “SYSTEMICALLY BIASED – AS THE REPORT AUTHORS CAUTION”. HOW DO YOU RESPOND TO THOSE ASSERTIONS?

A. The report speaks for itself. The authors properly acknowledge certain caveats, such as the fact that the data may not reflect current prices by the time the report

1 is issued, and has some limitations in scope (*e.g.*, excluding battery storage and
2 third-party owned systems that could distort the data). To be clear though,
3 nowhere do the authors suggest that it is “low quality” or biased in any way
4 beyond the fact that there is an unavoidable lag in the timing of the report relative
5 to the data on which it is based. Accordingly, costs may be slightly lower on
6 average today, but they would have had to decline by an extraordinary amount
7 over a short period of time to reach the costs that Witness Robinson uses in his
8 analysis. Such a large decline is not supported by the modest nature of year-over-
9 year cost declines during the recent past.

10 **Q. HOW DO YOU RESPOND TO WITNESS ROBINSON’S RELATION OF**
11 **THE SOURCES ON WHICH HIS SOLAR COST ESTIMATES ARE**
12 **BASED?**

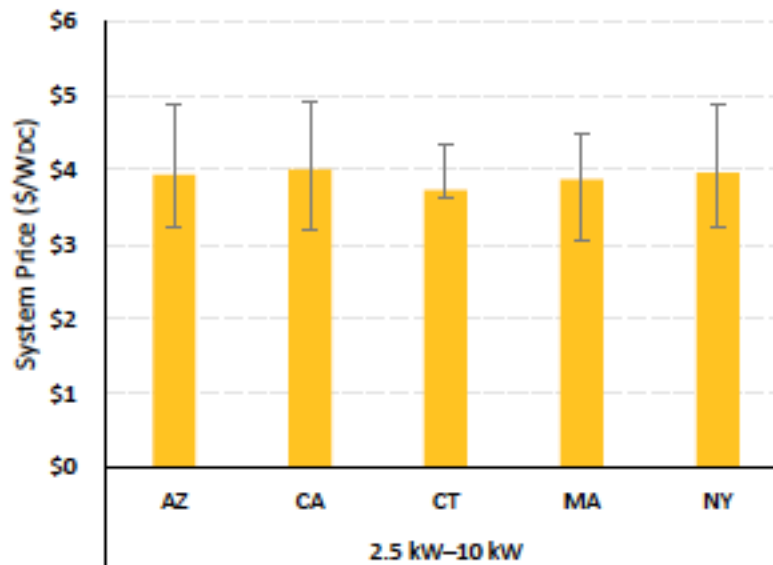
13 A. It is clear from a review of those sources that there are significant differences in
14 costs reported or estimated by different sources. Witness Robinson appears to
15 prefer to rely only on the lowest reported prices, which tends to *systemically bias*
16 his solar cost estimates towards lower amounts. For instance, Witness Robinson
17 supplies an average cost figure of \$3.00 per watt for South Carolina based on data
18 from Energy Sage.²² Energy Sage also specifies an average cost of \$2.34 per watt
19 for systems in Arizona.²³ Yet one of Witness Robinson’s other sources, the Q4
20 2019/Q1 2020 solar market report from the National Renewable Energy Lab

²² Rebuttal Testimony of Scott A. Robinson (“Robinson Rebuttal”) at 11:4.

²³ Energy Sage. Annual Market Reports by State, *available at*: <https://news.energysage.com/how-much-does-the-average-solar-panel-installation-cost-in-the-u-s/>.

(“NREL”) includes the following figure depicting pricing in five states in Q1 2020, including Arizona.²⁴

Figure 3: NREL Solar Price Report Excerpt



As is readily visible, the median for Arizona is slightly under \$4.00 per watt, with a 20th to 80th percentile range of around \$3.25 per watt to \$4.90 per watt. For Arizona, the NREL data is similar to the data from the Lawrence Berkeley National Lab report (“LBNL Report”) I cited in my direct testimony, which quoted a 2019 median cost of \$3.60 per watt and a 20th to 80th percentile range of \$2.92 per watt to \$4.36 per watt.²⁵ The “bias” suggested here is that Energy Sage, the only source which Witness Robinson cites that is specific to South Carolina, is “biased” towards reporting lower costs. In short, Witness

²⁴ <https://www.nrel.gov/docs/fy20osti/77010.pdf>, at p. 41.

²⁵ LBNL Report. Summary Data Tables, tab labeled “State Comparison”. December 2020. Available at: <https://emp.lbl.gov/tracking-the-sun>.

1 Robinson's solar price estimate selectively pulls from different sources that show
2 significant variations in state pricing estimates in search of justification for his
3 estimate.

4 **Q. HOW DO YOU RESPOND TO WITNESS ROBINSON'S STATEMENT AT**
5 **P. 11 LINE 19 THROUGH P. 12 LINE 3 THAT THE "FRAMEWORK"**
6 **FOR HIS ANALYSIS ACCOUNTS FOR ECONOMIES OF SCALE IN**
7 **SOLAR PV PRICES?**

8 A. Witness Robinson discussion of the issue misses the point entirely. He states that
9 "the solar PV prices I used in my analysis are designed to capture a range of
10 system sizes, rather than a specific size . . ." ²⁶ This is precisely the point I made in
11 my direct testimony – that one cannot base a PV price estimate on such a "range
12 in system sizes" (*i.e.*, a typical or average price) but then analyze the customer
13 economics of a hypothetical very small PV system (3 kW) that economies of scale
14 indicate would be more costly in a \$/W basis. In other words, in order to assess
15 the economics of buying an apple (*i.e.*, a 3 kW system), one must use the cost of
16 an apple, not the cost of an orange (*i.e.*, a range that includes larger systems).
17 Witness Robinson's analysis of solar economics analysis under the proposed
18 Solar Choice tariff is distorted by the manner in which he mixes and matches
19 realistic PV prices and optimal system sizing.

²⁶ Robinson Rebuttal at 11:21-22.

- 1 **Q. AT P. 12 LINES 14-16 WITNESS ROBINSON APPEARS TO INDICATE**
2 **THAT THE RECENT EXTENSION OF THE FEDERAL SOLAR**
3 **INVESTMENT TAX CREDIT (“ITC”) INCLUDED AN INCREASE IN**
4 **THE AMOUNT OF THE TAX CREDIT FROM 26% TO 30% IN**
5 **REFERENCE TO THE REASONABLENESS OF HIS “LOW COST” PV**
6 **PRICE SCENARIO. IS THIS CORRECT?**
- 7 A. For the purpose of clarity, Witness Robinson specifically states “The ‘Low Cost’
8 scenario contains a tax incentive assumption with 4% additional tax incentives
9 (30% vs. 26%) that ended up being approved by the Senate in the extension.”²⁷ To
10 make it abundantly clear, the December 2020 extension of the solar ITC did not
11 include an increase in the ITC from 26% to 30%. As it stands now the solar ITC
12 will remain at 26% for 2021 and 2022 and decline to 22% in 2023.²⁸ It is not clear
13 to me whether Witness Robinson is referring to a version of the package that
14 passed the U.S. Senate at some prior point because he failed to provide any
15 citation. If he is referring to the adopted extension, he is mistaken. His “Low
16 Cost” PV price scenario accordingly has no basis in reality, or any value for the
17 Commission’s consideration of customer solar economics.

²⁷ Robinson Rebuttal at 12:14-16.

²⁸ Consolidated Appropriations Act, 2021, Pub. L. No. 116-260, §§ 131, 141 (2020).

1 **Q. DO YOU HAVE ANY CONCLUDING REMARKS ON HOW THE**
2 **COMPANY’S SOLAR CHOICE TARIFF PROPOSAL WOULD AFFECT**
3 **CUSTOMER-SITED SOLAR ECONOMICS AND WITNESS**
4 **ROBINSON’S CONTENTIONS IN HIS REBUTTAL TESTIMONY?**

5 A. Yes. The conclusion I reached in my direct testimony remain the same. Witness
6 Robinson’s analysis of customer-sited solar economics lacks methodological
7 credibility and cannot be relied upon as an accurate assessment of how the
8 proposed Solar Choice tariffs would affect customer uptake. The only thing his
9 evaluation shows is that if one uses overly optimistic PV price assumptions under
10 a use case involving relatively higher usage customers installing very small
11 systems, then solar adoption might retain some level of economic attractiveness to
12 a very narrow subset of customers. Such a result is nowhere close to the
13 Legislature’s objectives of avoiding industry disruption or building on the success
14 of 2014 Act 236, and Witness Robinson’s use case assumptions are entirely
15 unrealistic based on customer demand and expectations for solar DG adoption.

16 **VI. CONCLUSION**

17 **Q. DOES ANY INFORMATION PROVIDED BY THE COMPANY IN ITS**
18 **REBUTTAL TESTIMONY CHANGE ANY OF THE**
19 **RECOMMENDATIONS YOU MADE IN YOUR DIRECT TESTIMONY?**

20 A. No, my initial recommendations are unchanged. The Company’s rebuttal
21 testimonies did not present any evidence that would cause me to change my
22 recommendations. Likewise, ORS Witness Horii did not present any evidence in

1 his direct testimony that supports the reasonableness of the proposed Solar Choice
2 BFC, and I have demonstrated that his evaluation of the cost to serve solar net
3 metering customers incorrectly and unreasonably uses methodologies different
4 than the cost allocation methods that form the basis of the Company's embedded
5 cost of service study. My own analysis based on Witness Horii's framework with
6 corrected inputs illustrates that the cost shift, if any, is minimal. Accordingly, I
7 see no reason to modify any of my recommendations based on Witness Horii's
8 analysis.

9 **Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

10 A. Yes.